



# **CALIFORNIA HIGH-SPEED RAIL AUTHORITY**

**September 11, 2012**

**AGRICULTURAL WORKING GROUP  
WHITE PAPERS**

# AGRICULTURAL WORKING GROUP

- The Agricultural Working Group (AWG) was established to provide third-party review on impacts to current agricultural practices during construction and operation of HSR in the Central Valley.
- AWG members are specialists representing a broad range of agricultural interests.



# AGRICULTURAL WORKING GROUP GOALS

- **Goal 1:** Refine the list of issues and concerns within the agriculture industry.
- **Goal 2:** Use the agricultural expertise of the resource specialists to provide the best possible analysis of the issues and concerns.
- **Goal 3:** Use resource specialists to develop prevention and mitigation measures, where needed, to minimize agricultural impacts during construction and implementation of the High-Speed Rail project.



# AGRICULTURAL WHITE PAPERS

**PURPOSE: REVIEW RESEARCH ON KEY AGRICULTURAL ISSUES AND ADDRESS CONCERNS RELATED TO HSR**

- **Bees and Pollination:** Will bee pollination be disrupted?
- **Induced Winds:** Will there be impacts from induced wind?
- **Dairy Impacts:** Will dairy production be affected by noise, vibration, or electromagnetic fields?
- **Movement of Agricultural Equipment:** Will the movement of agricultural equipment be constrained?
- **Irrigation:** Will the delivery of agricultural water be impacted?
- **Pesticide Use:** Will the High-Speed Train create new regulations?

# PEER REVIEW

- AWG members identified qualified professional agricultural organizations and universities to conduct peer reviews of each white paper.
- The California Farm Bureau was informed of those who were identified to conduct the peer reviews.
- Peer review comments were reviewed by the AWG and incorporated to improve the white papers.

# BEES AND POLLINATION

## WILL BEE POLLINATION BE DISRUPTED?

- Honey bees do not forage in rain or in wind stronger than 12 mph.
- Bees cannot carry a load upwind against winds higher than 15 mph and drift more under windy conditions.
- Cross pollination (required for commercial almonds) cannot occur with strong wind. Strong wind injures flowers and causes loss of pollination. Dry hot winds can effect the fertilization.
- Bee keepers consider various hive placement strategies in the field or orchard to improve performance.
- The brief 2 mph wind caused by the project will not impact the bees.





# INDUCED WIND

## WILL THERE BE IMPACTS FROM INDUCED WIND?

- There is no significant wind created by the High-Speed Train at the right-of-way line. It would not exceed 2 mph.
- The effect on blossoms and flowering trees is minimal due to the expected wind speed.
- Dust creation at the right-of-way line will be minimal.
- The impact on pesticide use will be minimal.



# DAIRY IMPACTS

## WILL DAIRY PRODUCTION BE AFFECTED BY NOISE, VIBRATIONS, OR ELECTROMAGNETIC FIELDS?

- Dairy cows exposed to recorded jet noise just before milking showed no behavioral or productivity responses.
- In a report by the U. S. Department of Transportation, it is stated that there is no established criteria relating high-speed train noise and animal behavior.
- In past sound studies, sudden, novel sounds have a larger effect on behavior. Effects decline as animals become accustomed to sounds.
- Studies examining responses in milk production from dairy cows on exposure to EMF have been variable and non-conclusive. The modeled levels of EMF exposure and measurements on other existing HSTs are well below existing standards.



# DAIRY IMPACTS



# MOVEMENT OF AGRICULTURAL EQUIPMENT

## WILL THE MOVEMENT OF AGRICULTURAL EQUIPMENT BE CONSTRAINED?

- Agricultural equipment requires over or under crossings with specific width, height, weight, sight distance, and travel speed characteristics:
  - Turning radius needed around rows averages 35 ft.
  - Widths range from 6 to 21 feet classified by folding/non-folding.
  - Heights range from 7 to 16 feet.
  - Operating weights range from 2,000 to 65,000 lbs.
- All public road modifications will be done to State and County standards.



# IRRIGATION

## WILL THE DELIVERY OF AGRICULTURAL WATER BE IMPACTED?

- No irrigation water will be blocked by extended outages.
- Short sections of conveyance systems owned and operated by irrigation districts and other water agencies may need to be relocated or realigned outside the project footprint.
- Irrigation systems can cross the project alignment in accordance with design standards for operations and serviceability.
- Master Service Agreements will cover construction, operations, access, reimbursement, and maintenance issues.
- Modification or relocation of individual irrigation systems owned and operated by each property owner are a part of the ROW acquisition process. This includes wells, ditches, pipes, filters, etc.

# IRRIGATION



# PESTICIDE USE

## WILL THE HIGH-SPEED TRAIN CREATE NEW REGULATIONS?

- There are no new conditions created by the High-Speed Train that will require new regulations.
- There is no significant wind created at the right-of-way line by the High-Speed Train.
- Limitations on the use of pesticides are most often caused by atmospheric conditions.



# AGRICULTURAL WORKING GROUP

## NEXT STEPS

- Utilize the AWG Whitepapers to
  - review findings and confirm key issues have been identified with farm owners and agricultural organizations
  - refine HSR policies on specific agricultural impact solutions
  - develop working relationships with other State Departments to maximize opportunities for solutions to agricultural impacts
- Develop in partnership with the Dept. of Food and Agriculture a long-term Agricultural Working Group and consideration for
  - funding research as needed for analyzing ag impacts
  - how to streamline permitting regulations where impacted by HSR
  - cooperatively focus the ag mitigations proposed with local stakeholders





THANK YOU